tracked signal amplitude value and a mean absolute amplitude value for the audio frame.

52. The apparatus as claimed in claim **48**, wherein the at least one memory and the computer code configured with the at least one processor to cause the apparatus to determine that the peak energy is a maximum peak energy level is further configured to cause the apparatus to:

determine that the peak energy level of the audio frame is within a second predetermined energy threshold value of an estimated maximum peak energy level for the audio frame,

53. The apparatus as claimed in claim **52** wherein the estimated maximum peak energy level is determined by causing the apparatus to:

weight a past estimated maximum peak energy level with a first weighting factor;

weight a maximum peak energy level for a previous audio frame with a second weighting factor; and

combine the weighted past estimated maximum peak energy level with the weighted maximum peak energy level for the previous audio frame, wherein the first and second weighting factors control the rate of adaptation of the estimated maximum peak energy level to the peak energy level of the audio frame.

54. The apparatus as claimed in claim **52**, wherein the at least one memory and the computer code configured with the at least one processor to cause the apparatus to the determine that the peak energy level is a maximum peak energy level further comprises level is further configured to cause the apparatus to:

determine a signal energy level for the audio frame, wherein the signal energy level is a minimum of the at least one peak energy level determined for the audio frame and the at least one neighboring audio frame;

compare the signal energy level for the audio frame to the estimated maximum peak energy level; and

determine that the estimated maximum peak energy level exceeds the signal level by a third predetermined energy threshold value.

55. The apparatus as claimed in claim **48**, wherein the at least one memory and the computer code configured with the at least one processor to cause the apparatus to determine that the peak energy level for the audio frame of the band limited audio signal is further configured to cause the apparatus to:

determine an energy value for a plurality of consecutive audio samples encompassed within the audio frame;

determine a further energy value of a further plurality of consecutive audio samples within the audio frame, wherein the plurality of consecutive audio samples and the further plurality of consecutive audio samples overlap within the audio frame; and

select the peak energy level for the audio frame to be the maximum of the energy value and the further energy value.

56. The apparatus as claimed in claim **48**, wherein the at least one memory and the computer code configured with the at least one processor to cause the apparatus to determine that the peak energy level is a maximum peak energy level is further configured to cause the apparatus to:

determine a minimum signal level for the audio frame; and

determine that the peak energy level for the audio frame exceeds the minimum signal level for the audio frame by an amount which is below a fourth predetermined energy threshold value.

57. The apparatus as claimed in claim **56**, wherein the at least one memory and the computer code configured with the at least one processor to cause the apparatus to determine the minimum signal level for the audio frame is further configured to cause the apparatus to:

determine an energy value for a plurality of consecutive audio samples encompassed within the audio frame;

determine a further energy value of a further plurality of consecutive audio samples within the audio frame, wherein the plurality of consecutive audio samples and the further plurality of consecutive audio samples overlap within the audio frame; and

select the minimum signal level for the audio frame to be the minimum of the energy value and the further energy value.

58. The apparatus as claimed in claim **48**, wherein the sample wise suppressor gain function applied to the at least one audio sample is applied to at least one sample of a sub band audio signal of the band limited audio signal.

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